

SCOLOPENDRID CHILOPODS OF THE
NORTHERN ANDES REGION
TAKEN ON THE CALIFORNIA ACADEMY SOUTH AMERICA
EPEDITION OF 1954-1955

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In continuation northward of the field work done by the California Academy of Sciences Expedition in Chili and Peru in 1950-'51, an expedition from the same institution carried on work in the Andes in Peru, Ecuador and Colombia. Of the chilopods secured on this second expedition, all collected by Dr. Edward S. Ross and E. I. Schlinger, I am here privileged to report upon the Scolopendrida.

Order SCOLOPENDRIDA

Scolopendridae

Scolopendra gigantea weyrauchi Bücherl

Location — *Peru*: 4 mi. W. of Ontario, La Liberad. One specimen, January 15, 1955.

Cormocephalus unguulatus (Meinert)

Localities — *Ecuador*: Pungo, one, Jan. 9, 1955; 6 mi. W. of Santo Domingo de los Colorados, two, February 23, 1955. *Peru*: Yurso, 67 mi. E. of Tingo Maria, one specimen on each of the following dates: Oct. 19, Nov. 10, and Dec. 18, 1954; Loma Lachay, 16 mi. W. of Chancay, Lima, one, Sept. 11, 1954.

All of these specimens agree with *unguulatus* in the more distinctive features while varying among themselves especially in the number of spinules on the prefemur of the legs. Most specimens are not fully grown.

Cormocephalus (Cupipes) anechinus, n. sp.

Color olive green throughout. Length 44 mm.

Head wider than long (11:10), the sides very convex; with paired sulci diverging forward to about middle. Basal plate exposed at ends. Antennae reaching upon second tergite, composed of 17 segments of which the first two are wholly glabrous, the third and fourth with hairs sparse, and the others completely clothed.

Prosternal plate bearing 3-3 or 4-4 teeth of which the inner two, or to some extent three, are fused together, the ectal tooth standing apart.

Dorsal plates from the first to the twentieth with complete paired sulci, the seventeenth to twenty-first margined, margining on the fifteenth and sixteenth evident only over middle of length, the twenty-first tergite with a fine median longitudinal sulcus.

Sternites 2 to 20 with deep paired sulci.

Last sternite narrowing caudad, strongly rounded posteriorly,

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not sulcate. Last coxae with well developed pore area, not at all produced caudally, bearing two spinules at mesoventral corner.

Anal legs with prefemur, femur and tibia strongly inflated, flattened above, the femur and prefemur conspicuously furrowed above. All joints wholly lacking spinules. Claw very long, of *Cupipes* type.

Localities — *Peru*: 48 km. E. of Carhuamayo, Junin, many specimens taken Dec. 30, 1954; 37 km. E. of Carhuamayo, Junin, five specimens taken Sept. 15, 1954.

Differing from *C. andinus* (Kraepelin) in having no caudal process on the coxopleurae and from this species and *C. impressus* in lacking spinules on the anal legs as well as in the dentition of the prosternal plates.

Cormocephalus (Cupipes) tingonus, n. sp.

Length, 40 mm.

Head equal in length and breadth, the sides but slightly convex over posterior portion, nearly parallel; surface smooth, almost wholly devoid of punctae; fine paired sulci diverging forward to middle length. Antennae composed of 17 articles of which the first two are glabrous.

Prosternal plate bearing 4-4 teeth. Prosternum with two sulci meeting at an angle at the anterior margin, diverging caudad.

Paramedian sulci complete beginning on tergite 1. Two last dorsal plates with a median longitudinal sulcus. Only the twenty-first tergite definitely margined.

Last ventral plate narrowing caudad, its caudal margin straight. Coxopleura with poriferous area not reaching caudal margin; not produced caudad, the rounded mesocaudal corner bearing two denticles.

Sternites with paired sulci across anterior border of second plate but these complete beginning with third plate.

Anal leg with prefemur, femur and tibia crassate and flattened above as usual, a longitudinal furrow on the first two of these joints. Prefemur with two spinules at distomesal angle above; ventrally typically four widely separated spinules, two toward inner side and two near outer, with rarely a single submedian spinule at base, on dorsomesal edge near middle one spinule. Femur without spinules. Claw of usual large size in the group.

Locality — *Peru*: Monson Valley, Tingo Maria, one taken Dec. 18, 1954.

Differing from *ungulatus* in having no ventral spine on the prefemur on its caudal margin other than the two at the dorsal angle and no spinules in the middle ventral face; also in having the diverging sulci of the prosternum extending over three fourths of the length of the plate instead of only one third the length, etc.

Otostigmidae

Otostigmus burgeri monsonus, n. subsp.

Color olive throughout. Length, 57-58 mm.

Antennae long, composed of 18-21 mostly long articles of which the first three are naked. Prosternal teeth 4-4.

Tarsi of legs 2 to 18 with two tarsal spines, leg 19 with only the ventral spine, leg 20 with none.

Paired sulci on tergites 4 to 19, partially indicated also on 3. Surface of tergites smooth throughout; sharply margined from the fourth on. Last tergite with a shallow longitudinal furrow which is deeper toward caudal end.

Anal coxopleurae extended caudad in a low conical process bearing two spinules at its tip. Anal legs long and slender.

Locality — *Peru*: Monson Valley, Tingo Maria, two taken Dec. 9, 1954.

Because *burgeri* is incompletely known, the present Peruvian form is separated with some doubt. It seems best, however, to designate it as a subspecies because of the following apparent differences: paired dorsal sulci beginning on tergite 4, or incomplete also on 3; tarsi of legs of first pair with a single spine instead of two; and tarsi of legs 18 and 19 with two spinules instead of only one.

Otostigmus (Parotostigmus) lavanus, n. sp.

Color olive green throughout. Length 52 mm.

Articles of antennae 17, of which the first 2 1/5 are glabrous.

Prosternal teeth 4 - 4; of these the two innermost on each side are fused together at base. Prosternum without a sulcus.

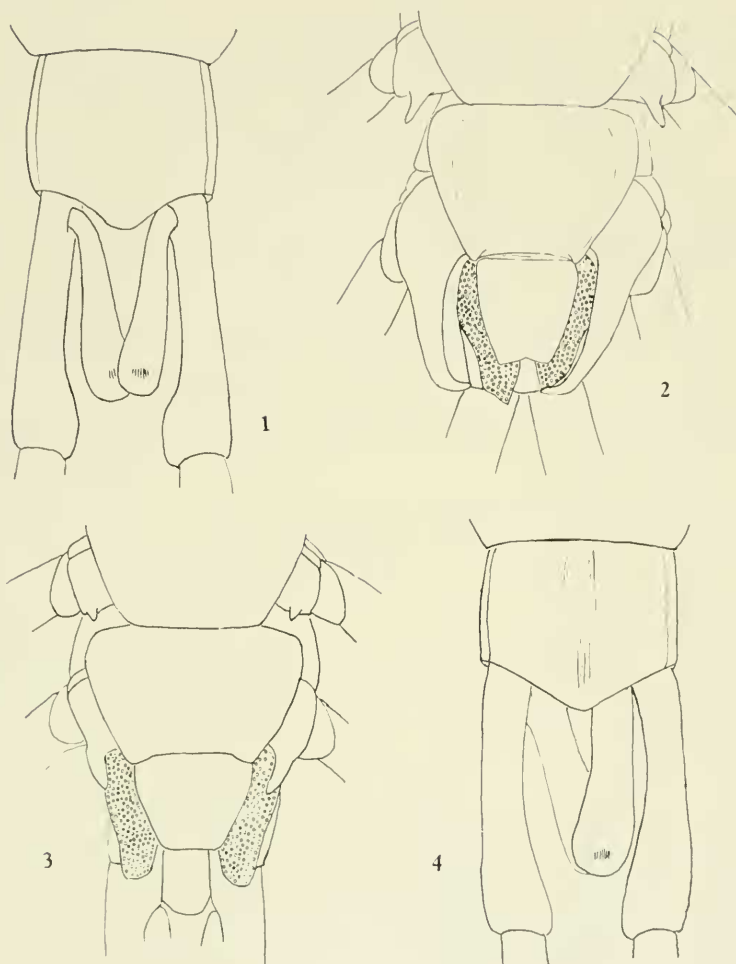
Paired sulci complete beginning with the sixth tergite. Posterior tergites with fine scabrous points over surface, these more numerous on the last tergite, and posterior plates roughened on the sides but without true ridges or keels, a median ridge, however, being obscurely indicated on a few of the last plates. Last tergite with a shallow, median longitudinal furrow which is not sharply impressed. Only the last tergite truly margined.

Sternites without sulci, but some showing a shallow median depression.

A single tarsal spine, which is ventral, on leg 1 to 19, the legs of the twentieth pair without this spine.

Last ventral plate strongly narrowed caudad, the caudal margin incurved or forming an obtuse reentrant angle, the plate without a median sulcus (Fig. 1). Coxae with mesocaudal corner but not produced and bearing no spinules.

In the male the anal legs have the prefemur bearing an elongate appendage which is three fourths or more the length of the joint, and presenting on dorsal side toward distal end a small patch of golden colored hair. Coxae of the twentieth legs with a conspicuous process, curved distally and extending a little beyond the last sternite as



Otostigmus lavanui: Fig. 1, Caudal end of male, dorsal view; Fig. 2, The same, ventral view. *Otostigmus mesethus*: Fig. 3, Caudal end of male, ventral view; Fig. 4, The same dorsal view.

shown in figure (Fig. 2). The coxae of the nineteenth legs with a smaller process.

Locality — *Ecuador*: 6-12 mi. SW. of Banos, N. slope of Mt. Tungurahua. One male taken Feb. 13, 1955.

This form differs from *O. insignis* in lacking a sharply defined median keel on the posterior tergites, in lacking a median sulcus on the last sternite, and in the male having coxal processes on the nineteenth legs and in having the coxal process of the twentieth legs much shorter and in a longer prefemoral appendage. The processes of the

coxae of the twentieth legs are longer than those in *O. silvestri*.

Otostigmus (Parotostigmus) mesethus, n. sp.

Olive green, the legs lighter. Length 45 mm.

In general structure close to *O. lavanus*. It differs in having two tarsal spines on the first three pairs of legs instead of but one, in having the caudal margin of the last sternite straight, at least in the male, or but slightly incurved in the female, and in having the meso-caudal corner of the last coxae rounded instead of angular.

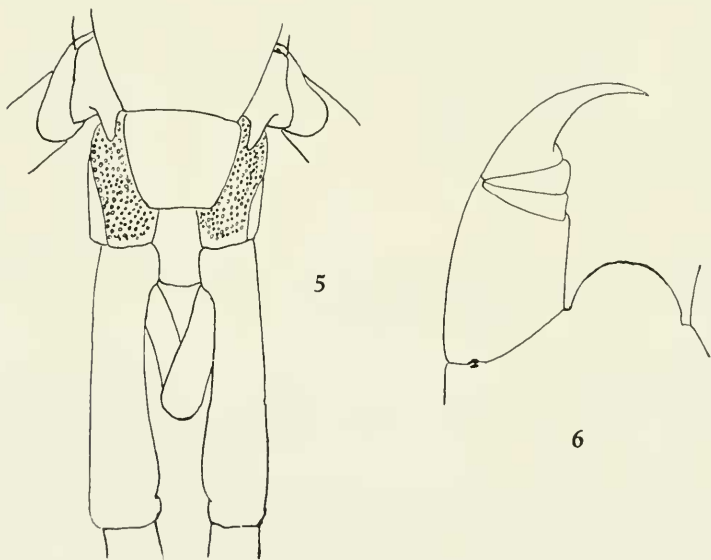
A conspicuous difference in the male is in the much shorter, simply conical coxal process of the twentieth legs as shown in figure 3. Unfortunately the lack of an adequate series makes it impossible to draw any conclusions as to range of variation in this character that might be correlated with age. The appendage of the anal legs in the male is proportionately shorter as shown in figure 3. Locality — Ecuador: 6-12 mi. SW of Banos. N. slope of Mt. Tungurahua.

Male and female taken February 13, 1955.

Otostigmus (Parotostigmus) parvior, n. sp.

Length, 40 mm.

In the spining of the legs and other major features close to *mesethus*, but separated primarily on the basis of differences in the secondary sexual characters of the male. In the present form the



Otostigmus parvior: Fig. 5, Caudal end of male, ventral view. *Newportia ecuadorana*: Fig. 6, Right prehensor and anterior portion of prosternum.

coxal process of the twentieth legs is much smaller, no coxal process is present on the nineteenth legs, and the appendage of the prefemur of the anal legs is much shorter. The caudal margin of the last sternite straight.

Locality — *Ecuador*: 20 mi. SE of Ambabo. Male holotype and female allotype taken Feb. 8, 1955.

Cryptopidae

Cryptops rossi Chamberlin

Locality — *Ecuador*: Banos, Tungurahua. One specimen taken Feb. 11, 1955.

This specimen presents the unusual color pattern of the types which were taken in Colombia at Buena Ventura.

Cryptops calinus, n. sp.

Body yellowish, with the head and caudal end, including the anal legs, chestnut.

Length, 11 mm. First tergite a little overlapping the head.

Antennae composed of 14 articles. Head with two fine short sulci across posterior border. Prosternal margin nearly straight, slightly obtusely indented at middle.

First tergite without sulci. Paramedian sulci complete, beginning on segment 5.

Spiracles all circular.

Sternites typically with a median longitudinal furrow and a transverse furrow crossing it at the middle.

Last ventral plate wide, broadly rounded behind. Coxal pores extending to caudal margin of the joint.

Legs sparsely clothed with setae. The twentieth legs on the joints proximad of the tarsus with an area or pad of dense fine hairs.

Anal legs with sparse hairs on dorsal surface, these hairs more abundant on distal joints than on femur and prefemur. None of the joints with terminal teeth; prefemur beneath with numerous short, conical pointed spinules, with fewer of the same above, a naked area between the patches of spinules on both ectal and mesal surface; femur with similar spinules beneath and a band of them on dorso-mesal surface above a naked area; tibia beneath with five teeth in series, the first tarsus with two.

Locality — *Colombia*: 11 mi. W. of Cali, Valle. Two specimens taken March 23, 1955.

This species is like the African *C. philaminus* in having the first tergite overlapping the head, complete paired sulci beginning on tergite 5 and in the ventral areas of fine hair on the twentieth legs. It differs in having the spiracles all circular instead of elliptic and in the more slender prefemur and femur of the anal legs, with the prefemur also differing in having naked areas on ectal and mesal faces between the patches of spinules.

Dinocryptopidae
Otocryptops ferrugineus (Linne)

Localities — *Peru*: 37 mi. E. of Carhuamayo, one, Sept. 15, 1954; 4 mi. W. of Otusco, La Libertad, one, Jan. 15, 1955; 43 mi. E. of Tingo Maria, Nov. 18, 1954. *Ecuador*: 45 mi. E. of Alausi, at 3,000 m., Feb. 24, 1955; 30 mi. S. of Alausi, Feb. 20, 1955; Tixan, 8 mi. NE of Alausi, Feb. 14, 1955; 8 mi. N. of Alausi, Chimborazo, also Feb. 14, 1955.

Dinocryptops miersii (Newport)

Localities — *Peru*: 40 mi. E. of Tingo Maria, one taken Dec. 12, 1955; 37 mi. E. of Carhuamayo, one, Sept. 15, 1955; 48 mi. S. of Carhuamayo, one, Dec. 30, 1954; 4 mi. W. of Otusco, La Libertad, one, Jan. 15, 1955. *Ecuador*: 28 mi. S. of Quito, one Feb. 22, 1955; 30 mi. S. of Alausi, Chimborazo, two, Feb. 20, 1955; Tixan, 8 mi. N. of Alausi, Chimborazo, several, Feb. 14, 1955.

Newportia albana, n. sp.

Color more or less chestnut throughout. Length, about 20 mm.

Head with fine paired sulci posteriorly. Articles of antennae 17.

First tergite with curved transverse sulcus which is not at all angled at the middle; two paired longitudinal sulci which continue forward in front of the transverse one.

Paramedian paired sulci on tergites beginning with the fifth or sixth. Surface of tergites smooth, none with a median keel. Last tergite with caudal margin of median lobe nearly straight.

Tarsi of anterior legs uniarticulate, tibia of these legs with ventral and dorsal spine.

Last ventral plate strongly narrowed caudad, the posterior margin convex. Area of coxal pores reaching caudal margin of the joint; coxal process especially short, each with a denticle or spinous point toward base on ectodorsal face.

Anal legs with prefemur bearing five spines beneath, all smaller than usual, with the most anterior especially reduced; the aborted spinules in dorsal series few. Femur with two small spines in the same longitudinal line on the proximal half of the ventral face. Tibia much thicker than the tarsus. Basal joint of tarsus distinctly set off from distal portion which sometimes is considerably thicker; the distal portion shows some well separated articles, but in other parts the articles are not, or only irregularly, clearly defined (cf. Fig. 9).

Locality — *Colombia*: 2 mi. W. of Alban, Condin Amarca, one each on Mar. 14 and 23, 1955.

This species is apparently related to *N. paraensis* from which it differs in having the paired dorsal sulci on the second tergite, in the

much shorter coxopleural process, and the sparser spining of the anal legs, etc.

Newportia atopa, n. sp.

Dark or brownish yellow, the head and last tergite with anal legs darker.

Length, about 15 mm.

Head with much abbreviated paired sulci on its posterior border. Antennae composed of twelve articles. Prosternum anteriorly produced, the margin presenting two gently convex lobes meeting at the middle in a shallow obtuse angle, the lobes with the usual chitinous rim.

First tergite with cervical sulcus angled at the middle; the usual fine paramedian sulci.

Paired longitudinal sulci complete on the second and following tergites. Tergites densely finely punctate. Sternites punctate, the median sulcus incomplete in all.

Last ventral plate with caudal margin straight. Coxal pores and process as in most species.

Anal legs with tarsus abruptly much thinner than the tibia, not distinctly divided into tarsus 1 and tarsus 2, its first article being but little longer than the second, composed of nine articles (cf. Fig. 8). Prefemur with the usual four stout spines on the ventral surface and with a series of spinules on the mesal face and a few also on the ectal face. The femur with two spines on mesal side, one at base and one just beyond the middle.

Locality — *Ecuador*: 36 mi. S. of Alausi, Chimborazo. One specimen, Feb. 20, 1955.

Resembling the Paraguayan *N. balzani* in not having the first tarsal joint of anal legs thicker than those following it but this joint relatively shorter in the present species. It also differs in having no spinules on the femur and in its much larger size.

Newportia caldes, n. sp.

Yellow, the head chestnut, the posterior end more dilute chestnut.

Length, 21 mm.

Head without sulci, sparsely punctate. Antennae composed of 16 articles.

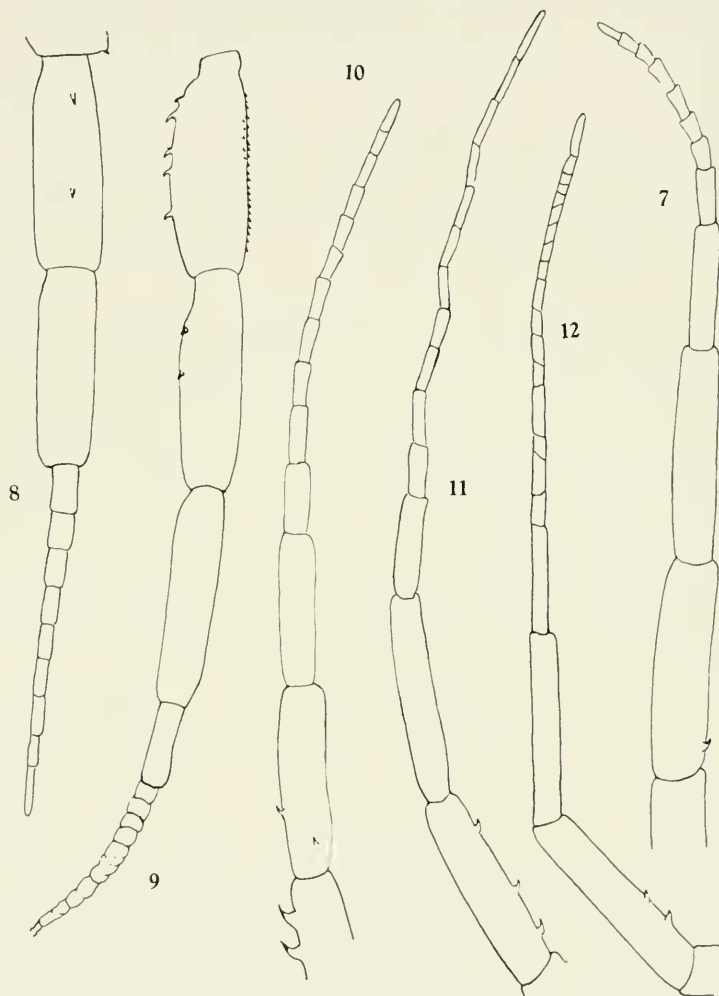
First tergite with cervical sulcus angled at middle; behind this two fine, anteriorly furcate sulci ending on the transverse sulcus. Anterior margin of the prosternum convex on each side, the median reentrant angle or notch very obtuse, the chitinous rim complete.

Paired dorsal sulci complete on second and subsequent tergites; a more or less oblique sublateral sulcus over anterior part of plate beginning on third tergite. Last dorsal plate with median lobe conspicuously convex.

Last ventral plate moderately narrowed caudad, the lateral mar-

gins convex, the posterior margin concave. Coxal pores numerous, extending to caudal margin of joint.

Anal legs with prefemur bearing the usual series of four large spines beneath and on ectal and mesal surfaces with finely tipped spinules. Femur with two spines, one, the larger, on mesal side at base and a smaller ventral one a little proximad of middle. Tibia



Newportia ecuadorana: Fig. 7, Anal leg distad of prefemur. *Newportia atopa*: Fig. 8, Left anal leg, mesal view. *Newportia albana*: Fig. 9, Right anal leg, mesal aspect. *Newportia caldes*: Fig. 10, Left anal leg distad of proximal half of prefemur. *Newportia schlingeri*: Fig. 11, Anal leg distad of prefemur. *Newportia rossi*: Fig. 12, Anal leg distad of prefemur.

thicker than the tarsus and about twice the length of the first tarsus. In the type the second tarsus composed of eleven moderately long articles the first of which is about half the length of tarsus 1.

Locality — *Colombia*: 2 mi. W. of Calarca. Caldes. Holotype taken Mar. 5, 1955.

Differing from *N. monticola* in lacking sulci on the head, in the convex anterior rim of the prosternum, and in the spining of the femur of the anal legs.

Newportia ecuadorana, n. sp.

Dull yellow, with head and first tergite chestnut.

Length, 18 mm.

Head with paired sulci across posterior border. Antennae composed of seventeen articles. Prosternal margin prominently convex and protruding, its rim not notched at middle (Fig. 7).

First tergite with a cervical sulcus which is very obtusely angled at the middle; the paired longitudinal sulci anteriorly furcate and ending on the transverse sulcus.

Paired sulci on the other tergites complete from the second on, the lateral sulci as usual.

Sternites with a median sulcus which on the anterior ones is complete.

Last ventral plate with convex sides converging caudad, the posterior margin incurved. Coxal processes of moderate length.

Prefemur of anal legs bearing a series of three stout teeth beneath, the spinules on mesodorsal face abortive. Femur with a single spine on mesal side at base. First tarsus abruptly thinner than the tibia; the second tarsus slightly differing in thickness from the first, composed of eight articles (cf. Fig. 7).

Locality — *Ecuador*: 2 mi. W. of Banos, Tungurahua. One, Feb. 5, 1955.

This species is closely related to *N. monticola*. It differs in the very convex prosternal margin as contrasted with the characteristically straight margin of *monticola*; in the well developed and complete sulcus of the anterior sternites; in having three instead of four spines in the ventral series of the prefemur of the anal legs and in having but one spine on the femur. Two smaller specimens agree with the type except in having four spines in the ventral series of the prefemur of the anal legs. One of these is from Ecuador without more definite locality and the other from 45 mi. S. of Alausi where taken Feb. 20, 1951.

Newportia monticola Pocock

Localities — *Colombia*: 27 mi. E. of Manizales, Caldas, three taken Mar. 16, 1955, one of these 45 mm. long which is exceptionally large for the species; 13 mi. W. of Cali, Valle, Feb. 20, 1955 and 6 mi. W. of Cali, Mar. 20, 1955. *Ecuador*: Largo Zurucuchu, 11 mi. W. of Cuerno, one, Feb. 16, 1955; 45 mi. S. of Alausi,

Feb. 20, 1955; 15 mi. N. of Quito, Feb. 27, 1955; Pichilingue, Feb. 2, 1955; and 2 mi. W. of Banos. Tungurahua.

Newportia rossi, n. sp.

Head with first and the last tergite orange in color. the rest of the dorsum brown mottled with blackish on lateral and caudal borders of the tergites and also down middle of some plates.

Length, 29 mm.

Head equal in length and breadth, without paired sulci. bearing numerous short hairs. Anterior margin of the prosternum straight, with the usual narrow chitinous rim.

First dorsal plate with a fine evenly curved transverse sulcus which runs close to caudal margin of head; no longitudinal sulci.

Paired sulci not evident on tergite 3 and vague on tergites 4 to 6; but well impressed on plates following 6; a coarser and deeper sulcus on each side, this not complete posteriorly. All sulci becoming deeper in proceeding caudad until the sixth from the last plate, after which they become less pronounced and are absent from the penult. Last dorsal plate short, its caudal margin straight across each of its lateral ends and strongly convex in between.

Tarsi of anterior legs, with the exception of the first few, distinctly biarticulate; a single dorsolateral tibial spine on legs beginning with the fourth.

Last ventral plate long, the sides gently converging caudad and rounding in at the caudal corners, the caudal margin short and straight. Coxopleural process long and acuminate.

Prefemur of the anal legs with the usual series of four large spines. Femur with two spinules on basal half of the joint. First tarsus scarcely more than half the length of the tibia; second tarsus of same thickness as the first, composed of 17 slender articles (cf. Fig. 12).

Locality — *Colombia*: 6 mi. W. of Cali, Valle. One taken Mar. 20, 1955.

A species close to *pusilla*, from which differing in lacking distinct longitudinal sulci on the first tergite and in the deep lateral sulci on the other plates, etc. It also seems to differ in the larger number of articles in tarsus 2 of the last pair of legs. The black mottling on the dorsal plates has not been noted for *pusilla*.

Newportia schlingeri, n. sp.

Color light yellow, the head and last tergite somewhat darker.

Length, 32 mm.

Head longer than wide in about ratio 19:17; widest posteriorly, moderately narrowing anteriorly; posterior margin widely convex; on dorsal portion showing two short paired sulci. Anterior margin of prosternum as a whole very convex. the median notch obtuse.

First tergite with transverse sulcus strongly angled; a pair of longitudinal sulci which branch anteriorly so as to form a W-mark

against the transverse sulcus in front of which it does not extend.

Complete paired sulci on second and following tergites; no true median keel; surface of tergites very finely roughened or somewhat shagreened.

Tarsus of anterior legs unarticulate, unarmed; the tibia with a dorso-lateral spine.

Last ventral plate rather broad, narrowing caudad, the caudal margin conspicuously incurved. Ectad of coxopleural process three denticles and typically a denticle subapical in position on the process.

Prefemur of anal legs with the usual series of four stout spines beneath; lateral and mesal surfaces with numerous reduced spinules. Femur ventrally with two, or sometimes but one, teeth,— one toward base and one distad of middle. Tibia armed. First tarsus somewhat less than half the length of the tibia, thicker than tarsus 2. Tarsus 2 consisting of 11-14 articles which are typically long (cf. Fig. 11).

Localities — *Peru*: 98 mi. E. of Olmos, Lambageque, one Jan. 19, 1955. *Colombia*: 3 mi. E. of Guaduas, Cundinamarca, one. Mar. 15, 1955; 12 mi. NE of Buenaventura, Valle, Mar. 27, 1955.

This form differs from *N. monticola*, e.g., in having the anterior margin of the prosternum conspicuously convex instead of straight and in the position of the spines on the femur of the anal legs.